STRUCTURAL NOTES

BUILDING CODE: IONAL DUILDING CODE (IDC) W// MAN DUILDING CODE AMENDMENTS

	A. 2006 INTERNATIONAL BUILD	ING CODE (IB	C) W/ MN BUILDING CODE AMEND	MENTS.
II.	DESIGN LOADS:			
	A. ROOFS:	SNOW:	GROUND SNOW LOAD	50 PSF
			FLAT ROOF SNOW LOAD	42 PSF
			EXPOSURE FACTOR	1.0
			IMPORTANCE FACTOR	
			THERMAL FACTOR	1.2
		DESIGN DE	AD (SLOPED STEEL FRAMING)	
			(PRECAST CONCRETE)	
	B. TYPICAL FLOORS:	LIVE		100 PSF
			AL ROOM	
		FUTURE AT	TIC	60 PSF

DESIGN DEAD (SLOPED STEEL FRAMING) 25 PS	>F
(PRECAST CONCRETE)63 PS	SF
B. TYPICAL FLOORS: LIVE100 P	SF*
MECHANICAL ROOM150 P	SF
FUTURE ATTIC60 PS	SF
STAIRS AND CORRIDORS100 P	SF
SUPERIMPOSED DEAD 15 PS	SF
C. WIND: BASIC WIND SPEED	PH
EXPOSUREC	
IMPORTANCE FACTOR 1.0	
INTERNAL PRESSURE COEFFICIENT 0.18	
COMPONENT DESIGN PRESSURE 21.5	PSF
D. SEISMIC DATA: NOT REQUIRED PER MN STATE BUILDING CODE	

*INCLUDES PARTITION ALLOWANCE

WIND LIDITET TABLE IN DOC

WIND UPLIFT TABLE IN PSF							
LOCATION	TRIBUTARY AREA						
LOCATION	10 SQ. FT.	100 SQ. FT.					
TYPICAL GROSS UPLIFT	21.7	18.0					
GROSS UPLIFT WITHIN 10'-0" OF BUILDING PERIMETER	25.4	21.7					
GROSS UPLIFT WITHIN 10'-0" OF BUILDING CORNER	25.4	21.7					
TYPICAL JOIST NET UPLIFT	16.7	13.0					
JOIST NET UPLIFT WITHIN 10'-0" OF BUILDING PERIMETER	20.4	16.7					
JOIST NET UPLIFT WITHIN 10'-0" OF BUILDING CORNER	20.4	16.7					

NOTE: INTERPOLATION MAY BE USED FOR TRIBUTARY AREAS BETWEEN 10 AND 100 S.F.

- III. FUTURE EXPANSION A. ENTIRE BUILDING EXCEPT WALKWAY LINK AND ENTRY CANOPY DESIGNED FOR A FUTURE
- SECOND FLOOR OF SIMILAR OCCUPANCY. B. PRECAST PLANK ATTIC FLOOR ASSUMED TO SERVE AS A FUTURE FIRST FLOOR AND PLANNED FOR A 2 INCH CONCRETE TOPPING AND A LIVE LOAD OF 100 PSF.
- C. FUTURE ONE STORY STEEL COLUMNS ASSUMED TO BE LOCATED ABOVE ALL COLUMNS ON GRIDS D AND E.
- D. LIGHT-GAUGE SLOPED ROOF TRUSSES AT PERIMETER BAYS ASSUMED TO BE RE-USED FOR FUTURE ROOF. E. STEEL ROOF FRAMING WITH METAL DECK ASSUMED FOR FUTURE ROOF AT INTERIOR PORTION
- BETWEEN GRIDS B AND C. F. EXTERIOR WALLS ASSUMED TO BE EXTENDED AS BEARING WALLS FOR FUTURE ROOF USING SIMILAR CAVITY-WALL CONSTRUCTION.

FOOTINGS AND SOIL DATA:

- A. FOOTINGS ARE DESIGNED FOR A MAXIMUM NET SOIL BEARING CAPACITY OF 5000 PSF PER SOIL INVESTIGATION (GEOTECHNICAL REPORT) MADE BY BRAUN INTERTEC CORPORATION, REPORT NO. SP-10-00328, DATED 12/22/10.
- B. FOOTINGS SHALL BEAR ON NATURAL UNDISTURBED SOIL OR ON COMPACTED, ENGINEERED FILL. ALL SUBGRADE SHALL BE PREPARED AND COMPACTED ACCORDING TO THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT.
- C. ALL TOPSOIL, FILL AND OTHER UNSUITABLE BEARING MATERIAL SHALL BE REMOVED. A GEOTECHNICAL ENGINEER SHALL INSPECT THE EXCAVATED AREA TO ENSURE ALL MATERIALS REQUIRING REMOVAL HAVE BEEN REMOVED AND TO VERIFY THE SOIL BEARING CAPACITY
- USED FOR DESIGN. D. SOIL COVER FROM EXTERIOR GRADE TO BOTTOM OF FOOTING SHALL NOT BE LESS THAN 3'-6" (HEATED STRUCTURES) AND 5'-0" (UNHEATED STRUCTURES). BOTTOM OF FOOTING ELEVATION SHALL BE LOWERED AS REQUIRED TO MEET THIS MINIMUM.
- E. DESIGN LATERAL SOIL PRESSURES: 45 PCF EQUIVALENT FLUID PRESSURE. F. BACKFILL SHALL BE PLACED AND COMPACTED AGAINST BOTH SIDES OF FOUNDATIONS WALLS (OTHER THAN BASEMENT WALLS) SIMULTANEOUSLY. SUPPORTING FLOORS SHALL BE PLACED PRIOR TO BACK-FILLING AGAINST BASEMENT WALLS OR CONTRACTOR SHALL PROVIDE ADEQUATE BRACING TO SUPPORT AND STABILIZE WALLS UNTIL THE SUPPORTING MEMBERS ARE INSTALLED.
- G. PRIOR TO COMMENCING FOUNDATION WORK, COORDINATE WORK WITH EXISTING UTILITIES. FOUNDATIONS SHALL BE LOWERED WHERE REQUIRED TO AVOID CROSSING ABOVE UTILITIES. H. RETAINING WALLS SHALL HAVE A MINIMUM OF 12" OF FREE-DRAINING GRANULAR BACKFILL, FULL HEIGHT OF WALL. PROVIDE CONTROL JOINTS IN RETAINING WALLS AT APPROXIMATELY EQUAL INTERVALS NOT TO EXCEED 40 FEET OR 3 TIMES THE WALL HEIGHT. PROVIDE EXPANSION JOINTS AT EVERY FOURTH CONTROL JOINT, UNLESS OTHERWISE INDICATED. I. NO MUD SLABS, FOOTINGS OR SLABS SHALL BE PLACED ONTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST OR ICE. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUBGRADE BEFORE AND AFTER PLACING CONCRETE UNTIL SUCH SUBGRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE OR PROPER DEPTH OF BURY. J. DO NOT UNDERMINE EXISTING FOUNDATIONS.
- K. FOOTING ELEVATIONS SHOWN IN DRAWINGS ARE ESTIMATED FROM SOIL BORING DATA; FINAL ELEVATION MAY BE LOWERED BY TESTING AGENT DURING CONSTRUCTION.

REINFORCED CONCRETE: A. DESIGN CODE: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI-318),

LATEST ADOPTION. B. CONCRETE MIXES SHALL BE DESIGNED PER ACI 301, USING PORTLAND CEMENT CONFORMING TO ASTM C-150 OR C-595, AGGREGATE CONFORMING TO ASTM C-33, AND ADMIXTURES CONFORMING TO ASTM C-494, C-1017, C-618, C-989 AND C-260. CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C-94. MIX DESIGNS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW. A SIGNED CERTIFICATION STATING COMPLIANCE WITH ACI 318, CHAPTER 5 SHALL BE SUBMITTED WITH EACH MIX DESIGN.

C. MATERIAL STRENGTHS:
1. CONCRETE COMPRESSIVE STRENGTH (f'c) AT 28 DAYS
FOOTINGS

		0011011212 001111 11200112 01112114111 (10), 11 20 2, 11 01		
		FOOTINGS	4000 F	PSI
		FOUNDATION WALLS	4000 F	PSI
		INTERIOR SLABS ON GRADE		
		ANY CONCRETE SUBJECT TO FREEZE-THAW CYCLES (5-7% ENTRAINED AIR)	4000 F	PSI
		PRECAST CONCRETE FLOOR TOPPINGS (3/8" MAXIMUM AGGREGATE)		
		ALL OTHER CONCRETE		
	2.	REINFORCING STEEL:		
		WELDABLE BARS ASTM	A706, 0	GR. 60
		ALL OTHER BARS, STIRRUPS AND TIESASTM		
		WELDED WIRE FABRICASTM	A185	
).	NC	DTES:		

- 1. PLACEMENT OF CONCRETE AND REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI AND CRSI STANDARDS. 2. PROVIDE 3/4" CHAMFER AT ALL EXPOSED CORNERS. 3. FURNISH THE FOLLOWING CONCRETE COVER ON REINFORCING BARS UNLESS SHOWN
- OTHERWISE ON DRAWINGS: SLABS ON GRADE.... PLACE MESH OR BARS IN CENTER OF SLAB COLUMNS AND BEAMS.. . 1 ½" COVER ON TIES ...2" COVER ON TIES PIFRS.... .. 3" COVER ON BOTTOM AND SIDES FOOTINGS..

...2" COVER WHERE EXPOSED TO SOIL OR WEATHER AND 1" WHERE NOT EXPOSED TO

- SOIL AND WEATHER. 4. ALL WELDED WIRE FABRIC SHALL BE TRANSPORTED AND DELIVERED IN FLAT SHEETS.
- 5. WELDING (INCLUDING TACKING) OF BARS OTHER THAN ASTM A706 SHALL NOT BE ALLOWED. WELDING OF ASTM A706 BARS SHALL CONFORM TO AWS D1.4. EPOXY COATED REINFORCING SHALL CONFORM TO ASTM A-775
- . MAINTAIN CONCRETE IN A CONTINUOUSLY DAMP CONDITION FOR NOT LESS THAN 7 DAYS AFTER PLACING. PROTECT FROM MOISTURE LOSS WITH SHEETING OR SPRAY-ON MEMBRANE MEETING ASTM C309 AND COMPATIBLE WITH FLOOR COVERINGS. 8. FINISHING REQUIREMENTS ARE AS FOLLOWS (REFER TO ACI 301):
- SMOOTH RUBBED FINISH ON EXPOSED FORM SURFACES. WOOD FLOAT FINISH ON SLABS TO RECEIVE TOPPING. STEEL TROWEL FINISH ON INTERIOR SLABS AND SLABS TO RECEIVE FINISH FLOORING.
- BROOM FINISH ON WALKS, STAIRS AND EXTERIOR CONCRETE PEDESTRIAN PAVING. NONSLIP FINISH SHALL BE APPLIED WITH ALUMINUM OXIDE TYPE SURFACE TREATMENT. 9. DO NOT FIELD BEND BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE UNLESS SPECIFICALLY INDICATED OR APPROVED BY THE ENGINEER.
- 10. PROVIDE CORNER BARS EQUAL IN SIZE AND SPACING TO WALL HORIZONTAL REINFORCEMENT UNLESS OTHERWISE DETAILED.
- 11. AT SLAB-ON-GRADE AND WALL OPENINGS, PROVIDE (2) #5x4'-0" DIAGONAL BARS AT 45 DEGREES AT ALL CORNERS. 12. COLD WEATHER CONCRETING SHALL FOLLOW PROCEDURES IN ACI 306. HOT WEATHER
- CONCRETING SHALL FOLLOW PROCEDURES IN ACI 305. 13. PROVIDE 32 BAR DIAMETER LAP LENGTHS FOR WALL FOOTINGS UNLESS NOTED
- OTHERWISE. FOR OTHER LAP LENGTHS PROVIDE CLASS B LAP SPLICES IN ACCORDANCE WITH ACI-318. 14. BAR SUPPORTS AND HOLDING BARS SHALL BE PROVIDED FOR ALL REINFORCING STEEL TO
- ENSURE COMPLIANCE WITH MINIMUM CONCRETE COVER, BAR SUPPORTS SHALL BE PLASTIC, PLASTIC TIPPED, EPOXY COATED OR STAINLESS STEEL 15. FORMWORK SHALL REMAIN IN PLACE UNTIL CONCRETE ATTAINS A MINIMUM OF 70% OF ITS 28 DAY COMPRESSIVE STRENGTH, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- 16. VERTICAL WALL CONSTRUCTION JOINTS SHALL BE FORMED WITH VERTICAL BULKHEADS AND KEYWAYS. WALL REINFORCING SHALL BE CONTINUOUS THROUGH THE JOINT OR SHALL BE DOWELED WITH AN EQUIVALENT AREA OF REINFORCEMENT.

VI. PRECAST, PRESTRESSED CONCRETE SLABS: A. DESIGN CODE: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI-318).

- LATEST ADOPTION, AND PCI MNL-116, LATEST ISSUE. B. NOTES: 1. PRECAST AND PRESTRESSED CONCRETE SLABS, BEAMS, COLUMN, & PANELS SHALL BE
- DESIGNED, FABRICATED AND ERECTED ACCORDING TO THE SPECIFICATIONS OF ACI AND PCL LATEST ADOPTION 2. THE PRECAST MANUFACTURER SHALL BE A PCI CERTIFIED PLANT AND SHALL MAINTAIN
- DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES. 3. PRECAST SLABS & PANELS SHALL BE DESIGNED FOR THE LIVE, DEAD, WIND, AND EQUIPMENT LOADS AS INDICATED AND IMPLIED ON THE DRAWINGS, AS WELL AS ALL
- HANDLING AND ERECTION LOADINGS. 4. PRECAST SUPPLIER SHALL DESIGN, FURNISH AND INSTALL ALL CONNECTIONS (INCLUDING DRILLING AND GROUTING DOWELS TO SUPPORTING WALLS) REQUIRED TO ATTACH PRECAST TO THE STRUCTURAL FRAMING SYSTEM. PROVIDE HEADERS AT OPENINGS AND CONTINUOUS MASONITE BEARING PADS. PRECAST WALL PANELS SHALL BE ANCHORED TO THE FOUNDATION, FLOOR AND ROOF LEVELS. THE ANCHORAGES SHALL PROVIDE A DIRECT CONNECTION CAPABLE OF RESISTING FORCES ON DRAWINGS, ACI-318 OR THE MINNESOTA
- BUILDING CODE, WHICHEVER IS GREATER. 5. PRECAST SUPPLIER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR ALL PRECAST MEMBERS BEARING THE SIGNED AND DATED SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN MINNESOTA TO THE ARCHITECT/ENGINEER FOR APPROVAL. THE SHOP DRAWINGS SHALL INCLUDE ALL REINFORCING, INSERTS, BEARING PADS, OPENINGS,
- BEARING PLATES AND ANCHORS. 6. CONNECTION DETAILS SHOWN ARE SCHEMATIC ONLY. ALL CONNECTION DETAILS SHALL BE DESIGNED BY THE PRECAST MANUFACTURER TO SUIT THE SPECIFIED LOADINGS. ALL CONNECTIONS SHALL ACCOUNT FOR THERMAL MOVEMENT, SHRINKAGE AND CREEP OF THE PRECAST MEMBERS. ALL WELD PLATES, INSERTS, ANCHOR BOLTS, WELDING, LIFTING HARDWARE, GROUT SLEEVES, ETC. SHALL BE DESIGNED AND PROVIDED BY THE PRECAST
- 7. UNLESS OTHERWISE NOTED, ALL CONNECTIONS EXPOSED TO EARTH OR WEATHER SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153. DAMAGE TO SUCH CONNECTIONS DUE TO WELDING OR HANDLING SHALL BE TOUCHED UP WITH COLD
- GALVANIZING FLUID. 8. OPENINGS FOR MECHANICAL AND ELECTRICAL ITEMS SHALL BE CORE DRILLED THROUGH HOLLOW CELLS ONLY, IN ACCORDANCE WITH THE P/C MANUFACTURER'S RECOMMENDATIONS. ADDITIONAL REINFORCEMENT SHALL BE PROVIDED AS REQUIRED BY THE PRECAST MANUFACTURER.
- 9. THE CONTRACTOR SHALL PROVIDE HOLES OR OTHER MEANS TO ALLOW THE HOLLOW CELLS TO DRAIN ANY WATER ACCUMULATION THAT MAY OCCUR DURING CONSTRUCTION.

VII. MASONRY: A. DESIGN CODE: BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES (ACI 530) AND SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1). LATEST ADOPTION.

- B. MATERIAL STRENGTHS: . CONCRETE UNIT MASONRY. .ASTM C90, f'm=2000 PSI .. ASTM C216-SW. f'm=2400 PSI 2. BRICK UNIT MASONRY.... 3. MORTARASTM C270
- LOAD BEARING OR BELOW GRADE... TYPE MORS ALL OTHER.... TYPE N 4. COREFILL CONCRETE GROUT. . ASTM C476, f'c=2000 PSI, 8-10" SLUMP,
- 3/8" MAX. AGGREGATE REINFORCING STEEL.. . ASTM A615, GRADE 60 C. NOTES:
- 1. VERTICAL CELLS TO BE FILLED WITH GROUT SHALL BE ALIGNED TO PROVIDE A CONTINUOUS, UNOBSTRUCTED OPENING. CELLS WHICH CONTAIN VERTICAL REINFORCEMENT SHALL HAVE A MINIMUM TWO (2) INCH CLEAR OPENING. ALL REINFORCING BARS SHALL BE PLACED TO PROVIDE A MASONRY COVERAGE OF NOT LESS THAN 2" FOR #6 AND LARGER BARS, OR 1 ½" FOR #5 AND SMALLER BARS. THE MINIMUM DISTANCE BETWEEN PARALLEL REINFORCING BARS, EXCEPT IN COLUMNS, SHALL BE EQUAL TO THE NOMINAL DIAMETER OF THE BAR OR 1", WHICHEVER IS GREATER. USE WIRE POSITIONERS FOR
- SECURING REINFORCEMENT IN POSITION. 2. THE USE OF MASONRY CEMENT AS MORTAR IS STRICTLY PROHIBITED. ALL MORTAR SHALL MEET THE "PROPORTION SPECIFICATION" OF ASTM C270 AND SHALL BE MADE WITH PORTLAND CEMENT/LIME (NON AIR-ENTRAINED)
- 3. UNLESS OTHERWISE INDICATED, ALL WALLS SHALL BE LAID UP IN RUNNING BOND. "TOOTH" BOND CORNERS AND INTERSECTIONS OF LOAD-BEARING WALLS. PROVIDE VERTICAL REINFORCING BARS OF THE GIVEN SIZE AND SPACING AS INDICATED. PROVIDE BARS AT ALL WALL CORNERS, INTERSECTIONS, OPENING EDGES AND EACH SIDE OF CONTROL JOINTS. MASONRY WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "LOW-LIFT" OR "HIGH-LIFT" METHODS. "HIGH LIFT" CONSTRUCTION IS LIMITED TO
- SPECIALLY QUALIFIED CONTRACTORS WITH A MINIMUM OF 3 PRIOR PROJECTS UTILIZING THE METHOD, WHO SHALL SUBMIT A DETAILED PROCEDURE FOR APPROVAL, INCLUDING DOCUMENTATION OF SPECIALLY TRAINED PERSONNEL. 5. HOLLOW UNITS SHALL BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS. WEBS SHALL ALSO BE BEDDED, WHERE THEY ARE ADJACENT TO CELLS TO BE REINFORCED OR FILLED WITH GROUT, IN THE STARTING COURSE ON
- FOOTINGS AND SOLID FOUNDATION WALLS AND IN NON-REINFORCED OR GROUTED PIERS, PILASTERS OR COLUMNS.
- 6. PROVIDE 9 GA. GALV. "DUR-O-WALL" TRUSS-TYPE HORIZONTAL JOINT REINFORCEMENT (OR EQUAL) EVERY SECOND COURSE. 7. CAVITY WALLS SHALL BE CONSTRUCTED AND TIED TOGETHER PER IBC 2109. COORDINATE
- BRICK TIEBACKS WITH THE ARCHITECTURAL DRAWINGS. 8. PROVIDE CONTINUOUS BOND BEAMS WHERE SHOWN, REINFORCED WITH TWO #4 BARS
- 9. UNLESS NOTED OTHERWISE, PROVIDE 8" DEEP BLOCK LINTEL WITH TWO #5 BARS UP TO 4'-0" WIDE OPENINGS, 16" DEEP BLOCK LINTEL WITH TWO #6 BARS EACH COURSE UP TO 8'-8" WIDE OPENINGS, 24" DEEP BLOCK LINTEL WITH TWO #6 BARS TOP AND BOTTOM COURSES UP TO 12'-0" WIDE OPENINGS OR PROVIDE LINTEL SIZE AND REINFORCEMENT AS SHOWN ON DRAWINGS. LINTELS AND REINFORCEMENT SHALL EXTEND 2'-0" BEYOND OPENING EDGES.

AT CONTROL JOINTS, TERMINATE BARS WITH 180 DEGREE HOOK AROUND VERTICAL REINFORCING. REINFORCE JAMBS WITH TWO #6 BARS (ONE EACH FACE) FULL HEIGHT, EACH SIDE OF OPENING, FOR ONE CORE IN WIDTH FOR EVERY 4'-0" IN OPENING WIDTH.

10. VERTICAL REINFORCEMENT SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS OR AS

- NOTED ON THE DRAWINGS. HORIZONTAL REINFORCEMENT SPLICES SHALL BE A MINIMUM OF 48 BAR DIAMETERS, INCLUDING CORNERS. 11. PROVIDE CONTROL JOINTS (KEYED TYPE) AT A MAXIMUM SPACING OF 30'-0" OR THREE TIMES THE WALL HEIGHT UNLESS SHOWN OTHERWISE. DISCONTINUE ALL HORIZONTAL REINFORCING AT CONTROL JOINTS EXCEPT FOR THE BOND BEAMS AT BEARING ELEVATIONS AND MASONRY LINTELS. DISCONTINUE ALL HORIZONTAL TRUSS-TYPE JOINT
- REINFORCING AT CONTROL JOINTS. 12. ALL NON-BEARING MASONRY WALLS SHALL BE ISOLATED FROM STEEL JOISTS AND BEAMS. 13. PROVIDE A MINIMUM OF 3 COURSES OF SOLIDLY GROUTED CMU BELOW ALL BEAM BEARINGS FOR A WIDTH OF 32", UNLESS DETAILED OTHERWISE ON DRAWINGS. 14. STEEL LINTELS PER THE FOLLOWING TABLE MAY BE PROVIDED FOR MISCELLANEOUS DOOR, WINDOW AND MECHANICAL OPENINGS IN BEARING AND NON-BEARING WALLS
- THICKNESS MEETING THE SIZES IN THE SCHEDULE BELOW FOR BRICK LINTELS (EACH WYTHE) UNLESS OTHERWISE DETAILED. 15. LINTELS < 4'-0" WIDE SHALL BE 16" DEEP BOND BM WITH (4)-#5 [(2)-#5 TOP & (2)-#5 BOT]. 16. JAMBS & LINTELS < 4'-0" WIDE SHALL BE 2 CORES GROUTED SOLID WITH (4)-#5 (1 EA FACE).

17. EDGE OF LOUVER OPENING JAMBS SHALL BE 3 CORES GROUTED SOLID WITH (6)-#5 (1 EA

WHERE LINTELS ARE NOT INDICATED ON DRAWINGS. PROVIDE CORE-FILLED JAMBS (FULL

HEIGHT) AND A MINIMUM OF 6" BEARING AT EACH END. PROVIDE A SINGLE ANGLE OF 3/8"

LOOSE ANGLE LINTEL SCHEDULE								
OPENING WIDTH	8" WALL	12" WALL						
UP TO 3'-0"	2-L3 ½ x 3 ½ x ¼	3-L3 ½ x 3 ½ x ¼						
OVER 3'-0" TO 4'-8"	2-L5 x 3 ½ x 5/16 (LLV)	3-L5 x 3 ½ x 5/16 (LLV)						
OVER 4'-8" TO 6'-8"	2-L6 x 3 ½ x 5/16 (LLV)	3-L6 x 3 ½ x 5/16 (LLV)						

VIII. STRUCTURAL STEEL:

- A. DESIGN CODE: SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (AISC), LATEST ADOPTION. (AISC LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST ADOPTION.)
- B. MATERIAL SPECIFICATIONS (UNLESS NOTED OTHERWISE) 1. STRUCTURAL STEEL WIDE FLANGE & S SHAPES.... ASTM A992 2. OTHER STRUCTURAL STEEL ROLLED SHAPES, PLATES & BARS....... ASTM A36 3. STRUCTURAL STEEL TUBING (HOLLOW STRUCTURAL SECTIONS)... ASTM A500, GR. B 4. STRUCTURAL STEEL PIPE (TYPE E).... ASTM A53, GR. B 5. CONNECTION BOLTS ASTM A325 HIGH STRENGTH ANCHOR RODS. ASTM F1554, GR. 105 OTHER ANCHOR RODS.. ASTM A307 ..ASTM A36 8. THREADED RODS.... 9. WELDS (E70XX ELECTRODES)... ASTM A233 10. STUD ANCHORS (TYPE B).... **ASTM A29 OR A108**
- 11. EXPANSION BOLTS.... ..KWIK OR EQUAL 12. NON-SHRINK GROUT (7,000 PSI)... . ASTM C1107, GR. A C. NOTES: 1. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED ACCORDING TO THE SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), LATEST
- ADOPTION. PROVISIONS 4.1 AND 4.2 OF THE AISC CODE OF STANDARD PRACTICE ARE SPECIFICALLY DELETED FROM THE PROJECT CONTRACT DOCUMENTS. ALL COLUMNS, ANCHOR BOLTS, BASE PLATES, ETC. HAVE BEEN DESIGNED FOR THE FINAL COMPLETED CONDITION AND HAVE NOT BEEN INVESTIGATED FOR POTENTIAL LOADINGS ENCOUNTERED DURING STEEL ERECTION AND CONSTRUCTION. CONFORMANCE TO ALLOWABLE STRESSES DURING ERECTION IS THE SOLE RESPONSIBILITY OF THE
- CONTRACTOR (SEE GENERAL NOTES). 3. STRUCTURAL STEEL SUPPLIER IS RESPONSIBLE FOR THE DESIGN OF ALL CONNECTIONS UNLESS DETAILED ON THE DRAWINGS. UNLESS DETAILED OTHERWISE, BEAM CONNECTIONS SHALL BE SELECTED TO SUPPORT 50% OF THE UNIFORM LOAD TABULATED IN PART 3 OF THE AISC STEEL CONSTRUCTION MANUAL, THIRTEENTH EDITION, (TABLE 5-4 OF THE LRFD STEEL CONSTRUCTION MANUAL, THIRD EDITION) FOR A GIVEN SHAPE, SPAN AND STEEL SPECIFICATION. CONNECTION DEPTHS SHALL NOT BE LESS THAN ONE-HALF THE DEPTH OF THE BEAM. SHOP CONNECTIONS MAY BE WELDED OR BOLTED USING 3/4" MIN. DIAMETER A325 BOLTS. FIELD CONNECTIONS SHALL BE BOLTED USING SNUG-TIGHT
- (TENSION CONTROLLED) 3/4" MIN. DIAMETER A325 BOLTS. . PROVIDE STIFFENERS, THROUGH PLATES, ETC. AS REQUIRED TO DEVELOP REACTIONS AT HSS, PIPE AND WIDE-FLANGE CONNECTIONS.
- 5. STRUCTURAL STEEL SUPPLIER SHALL FURNISH BOLTS FOR O.S.H.A. BOLTED ROOFTOP UNIT SUPPORT AND COLUMN ANCHOR RODS.
- 6. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1. UNLESS OTHERWISE NOTED, PROVIDE CONTINUOUS FILLET WELDS PER AISC REQUIREMENTS MEETING MINIMUM THICKNESSES ALLOWED PER THICKNESS OF MATERIAL WELDED. ALL FILLER MATERIAL SHALL HAVE A MINIMUM YIELD STRENGTH OF 58 KSI.
- 7. HOLES IN STEEL SHALL BE DRILLED OR PUNCHED. ALL SLOTTED HOLES SHALL BE PROVIDED WITH SMOOTH EDGES. BURNING OF HOLES AND TORCH CUTTING AT THE SITE IS
- 8. STRUCTURAL STEEL PERMANENTLY EXPOSED TO VIEW SHALL BE SHOP-PRIMED WITH ONE COAT OF SSPC 15-68. TYPE 1 PAINT, DAMAGE DURING TRANSPORTING, ERECTING AND FIELD WELDING PROCESSES SHALL BE REPAIRED TO MATCH THE SHOP APPLIED COATING. STRUCTURAL STEEL PERMANENTLY EXPOSED TO WEATHER INCLUDING SHELF ANGLES AND ALL OTHER EXTERIOR WALL LINTELS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153. REPAIR OF GALVANIZED SURFACES SHALL BE PERFORMED WITH A COLD GALVANIZED FINISH.

IX. STEEL ROOF DECK:

- A. DESIGN CODE: STEEL DECK INSTITUTE (SDI) DESIGN MANUAL FOR ROOF DECKS AND FLOOR DECKS, LATEST ADOPTION. B. MATERIAL STRENGTHS: PER SDI SPECIFICATIONS.
- C. NOTES: 1. METAL DECKING SHALL BE FABRICATED FROM STEEL TYPE ASTM A653 STRUCTURAL
- QUALITY, HAVING A MINIMUM YIELD STRENGTH OF 33 KSI. 2. ROOF DECK SHALL BE WIDE RIB PROFILE, SIZE AND GAUGE AS INDICATED ON DRAWINGS, DESIGNED, FABRICATED AND ERECTED ACCORDING TO THE SPECIFICATIONS OF THE SDI,
- LATEST ADOPTION. 3. UNLESS SHOWN OTHERWISE, ROOF DECK SHALL BE SECURED TO SUPPORTING STEEL WITH 5/8" DIAMETER PUDDLE WELDS 6" ON CENTER AT END SUPPORTS AND LAPS, 12" ON CENTER AT INTERMEDIATE SUPPORTS. ALL SIDELAPS SHALL BE SECURED AT CENTER SPAN OF DECK WITH ONE #12 SELF-TAPPING SCREW, PROVIDED BY THE DECK SUPPLIER AND INSTALLED BY THE DECK ERECTOR. ENDLAPS SHALL BE A MINIMUM OF 4".
- 4. ROOF DECK SHALL SPAN PERPENDICULAR TO SUPPORTS AND INDIVIDUAL PIECES SHALL BE OF SUFFICIENT LENGTH TO COVER A MINIMUM OF THREE SPANS WHEREVER POSSIBLE. SHOP DRAWINGS SHALL CLEARLY INDICATE BY CLOUDED NOTE ALL PIECES OF DECK
- SPANNING LESS THAN THREE SPANS. 5. ALL METAL DECK WELDING SHALL BE IN ACCORDANCE WITH AMERICAN WELDING SOCIETY
- 6. ROOF DECK SHALL BE G60 GALVANIZE COATED, TOUCHED UP WITH GALVANIZING REPAIR
- 7. DO NOT HANG ANY PIPING, EQUIPMENT OR OTHER LOADING FROM THE STEEL ROOF DECK. 8. PROVIDE CLOSURES, FILLERS, AND SUMPS AS NECESSARY, ACCESSORIES SHALL BE A MINIMUM OF 20 GAUGE OR MATCH DECK GAUGE, WHICHEVER IS THICKER.
- 9. AT OPENINGS AND EDGES IN ROOF DECK PROVIDE CONTINUOUS SHEET METAL CLOSURES AND CONTINUOUS DECK CLOSURES AT END SPANS. WHERE OPENINGS ARE 12" OR LARGER IN WIDTH OR LENGTH, PROVIDE A STEEL FRAME CAPABLE OF SUPPORTING TRIBUTARY

10. SUBMIT DETAILED SHOP DRAWINGS PRIOR TO FABRICATION SHOWING LAYOUT, TYPES OF

- METAL DECK UNITS, CONNECTION DETAILS, ACCESSORIES AND OTHER RELATED ITEMS.
- LIGHT GAUGE METAL FRAMING: A. ALL LIGHT GAUGE METAL FRAMING SHALL CONFORM TO THE AISI "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION.

- B. SECURELY ANCHOR EACH STUD TO RUNNER TRACKS, TOP AND BOTTOM, AND TO STRUCTURE WITH SCREWS OR WELDS. TOP TRACK CONNECTIONS OF NON-LOAD BEARING WALLS SHALL PROVIDE FOR 1/2" MINIMUM VERTICAL DEFLECTION OF SPANDREL BEAMS, GIRDERS, ETC. STUD TRACK SHALL BE FASTENED TO CONCRETE WITH POWDER-DRIVEN FASTENERS, ALL AXIALLY LOADED STUDS SHALL HAVE FULL BEARING AGAINST THE INSIDE TRACK WEB. SPLICES IN
- AXIALLY LOADED STUDS ARE NOT PERMITTED. UNLESS OTHERWISE NOTED. C. SECURELY ANCHOR ALL GIRTS AND PURLINS TO EACH OTHER AND TO THE SUPPORTING STRUCTURE. FASTENINGS SHALL BE MADE WITH SELF-TAPPING SCREWS OR WELDS OF SUFFICIENT SIZE TO ENSURE THE CONNECTION STRENGTH. REQUIRED CONNECTION STRENGTHS SHALL BE DETERMINED BASED UPON THE LOADING PROVIDED IN SECTIONS
- ABOVE AND IN THE DRAWINGS. D. FURNISH BRIDGING, CLIP ANGLES, BRACING, REINFORCEMENTS, FASTENERS AND ALL OTHER ACCESSORIES FOR COMPLETE INSTALLATION AS RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION INDICATED. ALL BRIDGING (IF REQUIRED) SHALL BE INSTALLED PRIOR TO THE ADDITION OF ANY LOADING. PROVIDE WEB STIFFENERS AT JOIST AND RAFTER BEARINGS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE GAUGE OF ALL CONNECTING ELEMENTS, INCLUDING TRACKS, SHALL BE NO LIGHTER THAN THE GAUGE OF
- THE MEMBER BEING CONNECTED. E. STUDS, TRUSS MEMBERS AND ACCESSORIES SHALL BE GALVANIZED WITH A G-60 COATING MEETING THE REQUIREMENTS OF ASTM A525.
- CONFORMANCE WITH AWS SPECIFICATION D1.3. G. ALL FIELD WELDS AND SURFACES ABRADED DURING SHIPPING OR ERECTION SHALL BE TOUCHED UP WITH COLD GALVANIZING IMMEDIATELY AFTER ERECTION.

F. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS PER A.W.S. STANDARDS, IN

- H. EXCEPT FOR INTERIOR NON-BEARING WALLS, THE MANUFACTURER SHALL SUBMIT THE FOLLOWING FOR APPROVAL:
- 1. MANUFACTURER'S PRODUCT DATA AND LATEST TECHNICAL DATA. 2. ERECTION DRAWINGS SHOWING THE NUMBER, TYPE, LOCATION AND SPACING OF ALL MEMBERS. ALL CONNECTIONS AND ATTACHMENTS SHALL BE CLEARLY SHOWN. 3. SECTION PROPERTIES AND MATERIAL STRENGTHS OF ALL FRAMING MEMBERS THAT ARE
- 4. STRUCTURAL CALCULATIONS FOR ALL MEMBERS AND CONNECTIONS NOT OTHERWISE

DETAILED ON THE DRAWINGS.

- XI. GENERAL NOTES: A. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS AND MANNER OF CONSTRUCTION AND FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY
- PRECAUTIONS AND PROGRAMS B. MECHANICAL UNITS SUPPORTED BY ROOF OR FLOOR STRUCTURE ARE SUBJECT TO THE
- APPROVAL OF THE STRUCTURAL ENGINEER. C. THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISHED STRUCTURE. DURING ERECTION OF THE BUILDING, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR TEMPORARY GUYING, SHORING, BRACING, FORMING, ETC. TO HOLD THE STRUCTURE IN PROPER ALIGNMENT AND TO WITHSTAND ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING LATERAL LOADS, TEMPERATURE DIFFERENTIALS, STOCKPILES OF MATERIAL AND EQUIPMENT. SUCH MEASURES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED FOR SAFETY AND UNTIL ALL FRAMING AND CONNECTIONS INCLUDING ROOF DECK AND SUPPORTING FLOORS)ARE IN PLACE. THE INVESTIGATION, DESIGN, SAFETY, ADEQUACY AND INSPECTION OF SUCH TEMPORARY MEASURES ARE THE SOLE RESPONSIBILITY OF THE
- D. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE
- USED, SUBJECT TO APPROVAL BY THE ENGINEER. E. ALL STRUCTURAL SYSTEMS MADE UP OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE
- AND ERECTION IN ACCORDANCE WITH THE SUPPLIER'S INSTRUCTIONS AND REQUIREMENTS. F. EXISTING CONSTRUCTION: WHEREVER APPLICABLE, PRIOR TO FABRICATION AND CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ELEVATIONS, DIMENSIONS, AND OTHER CONDITIONS WHERE THEY AFFECT THIS CONSTRUCTION. NOTIFY THE ENGINEER IF THERE ARE ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS. OBTAIN PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER BEFORE MAKING ANY MODIFICATIONS TO THE EXISTING STRUCTURE NOT INDICATED ON THE CONTRACT DOCUMENTS.
- G. CONTRACTOR AND SUBCONTRACTORS SHALL THOROUGHLY REVIEW ALL DRAWINGS AND SPECIFICATIONS PRIOR TO SUBMITTING BIDS. MISCELLANEOUS FASTENERS, CLIPS, ETC. THAT ARE NOT DETAILED ON THE DRAWINGS BUT ARE PART OF THE REQUIREMENTS FOR FULL INSTALLATION OF ALL STRUCTURAL SYSTEMS ARE TO BE PART OF THE BID. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO THE BID TO ASCERTAIN CONDITIONS WHICH MAY ADVERSELY AFFECT THE BID.
- H. ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE CONSTRUCTION DRAWINGS AND/OR SPECIFICATIONS AND/OR EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK. DURING THE BIDDING STAGE, CONTRACTOR SHALL REQUEST AN INTERPRETATION OF CONFLICTS PRIOR TO BIDDING. IF NO REQUEST IS MADE, BOTH PROVISIONS SHALL BE PRESUMED TO BE INCLUDED IN THE BID AND THE ARCHITECT/ENGINEER SHALL DETERMINE WHICH PROVISION GOVERNS,
- AND THE CONTRACTOR SHALL PERFORM THE WORK AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL REVIEW, STAMP, SIGN AND DATE ALL SHOP DRAWINGS PRIOR TO FORWARDING TO ARCHITECT/ENGINEER. THE ENGINEER'S REVIEW IS TO BE FOR CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO
- MEMBER SIZES, DETAILS, DIMENSIONS, ETC J. SUBMIT THE FOLLOWING ITEMS FOR REVIEW: 1. CONCRETE MIX DESIGNS.
- REINFORCING STEEL SHOP DRAWINGS. 3. STRUCTURAL STEEL SHOP DRAWINGS.
- 4. METAL DECKING SHOP DRAWINGS. PRE-CAST CONCRETE SHOP DRAWINGS
- 6. PRE-ENGINEERED LIGHT-GAUGE TRUSS SHOP DRAWINGS. K. COORDINATION WITH OTHER TRADES: THE CONTRACTOR SHALL COORDINATE ALL DEPRESSIONS, DIMENSIONS, ELEVATIONS, SLEEVES, CHASES, HANGERS, OPENINGS, INSERTS. ANCHORS, EQUIPMENT SUPPORTS, AND DETAILS WITH THE ENTIRE CONTRACT DOCUMENT PACKAGE, INCLUDING SPECIFICATIONS AND ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. FOR CONCRETE AND MASONRY CONSTRUCTION THE INSERTS, EMBEDDED PLATES, ETC. SHALL NOT INTERFERE WITH REINFORCEMENT LOCATIONS.

- XII. SPECIAL INSPECTION: A. SPECIAL INSPECTION IS REQUIRED IN ACCORDANCE WITH IBC SECTION 1701 THE FOLLOWING PORTIONS OF CONSTRUCTION:
 - 1. CONCRETE (EXCLUDING SLAB-ON-GRADE): a. DURING TAKING OF TEST SPECIMENS.
 - b. REINFORCEMENT PRIOR TO PLACING CONCRETE. 2. BOLTS INSTALLED IN CONCRETE.
 - 3. STRUCTURAL WELDING: a. ONLY APPROVED FABRICATORS IN ACCORDANCE WITH IBC 1704.2.2 SHALL BE USED. b. FULL TIME INSPECTION IN ACCORDANCE WITH AISC 341 SHALL BE REQUIRED EXCEPT FOR THE FOLLOWING ITEMS WHICH REQUIRE PERIODIC INSPECTION, INCLUDING 100%
 - SINGLE-PASS FIELD-PERFORMED FILLET WELDS NOT EXCEEDING 5/16". FLOOR AND ROOF DECK WELDING.
 - WELDED SHEET STEEL FOR COLD-FORMED STEEL FRAMING MEMBERS. c. WELDING OF STAIRS AND RAILING SYSTEMS. d. VERIFICATION OF WELDER QUALIFICATIONS, WELDING PROCEDURES AND MATERIALS. 4. STRUCTURAL MASONRY:

a. AT START OF LAYING UNITS. PERIODICALLY DURING PLACEMENT OF ALL MASONRY

LETTER STATING COMPLIANCE WITH AND VARIANCES FROM THE PROJECT REQUIREMENTS (IF

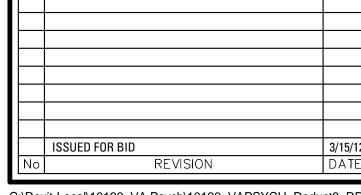
- UNITS, CONNECTORS AND REINFORCING. b. GROUT SPACE, MORTAR JOINTS, GROUT PROPORTIONS AND REINFORCING BARS PRIOR TO GROUTING OPERATIONS. c. FULL TIME DURING ALL GROUTING OPERATIONS.
- B. REPORTS FOR THE ABOVE SHALL BE SUBMITTED TO THE ENGINEER. ALL REPORTS SHALL CLEARLY INDICATE COMPLIANCE OR NON-COMPLIANCE. C. UPON COMPLETION OF EACH PHASE OF THE WORK, THE SPECIAL INSPECTOR SHALL SUBMIT A

- D. UPON COMPLETION OF THE PROJECT. THE SPECIAL INSPECTOR SHALL SUBMIT A LETTER STATING COMPLIANCE WITH THE PROJECT REQUIREMENTS INCLUDING MEASURES TAKEN TO
- CORRECT PREVIOUSLY IDENTIFIED NON-COMPLYING ITEMS. E. A STATEMENT OF SPECIAL INSPECTIONS FOR WIND REQUIREMENTS PER SECTION 1705 OF THE
- IBC IS A REQUIREMENT. REFER TO IBC 1705.4 FOR ITEMS TO BE INCLUDED. REFER TO IBC 1706.1 FOR CONTRACTOR RESPONSIBILITIES. THIS IS REQUIRED OF THE FOLLOWING: 1. ROOF CLADDING AND ROOF FRAMING CONNECTIONS

4. VERTICAL WINDFORCE-RESISTING SYSTEMS, INCLUDING BRACED FRAMES, MOMENT

- 2. WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING 3. ROOF AND FLOOR DIAPHRAGM SYSTEMS, INCLUDING COLLECTORS, DRAG STRUTS, AND BOUNDARY ELEMENTS
- FRAMES, AND SHEAR WALLS 5. WINDFORCE-RESISTING SYSTEM CONNECTIONS TO THE FOUNDATION

APPROVED: SERVICE LINE DIRECTOR DATE: APPROVED: INFECTION CONTROL NURSE STRUCTURAL NOTES ST. CLOUD VA HEALTH CARE APPROVED: CHIEF OF STAFF DATE: BUILDING No CHECKED BY DRAWN KWJ APPROVED: MEDICAL CENTER DIRECTOR 4801 VETERANS DRIVE, ST CLOUD MN





1220 Marshall Street NE Minneapolis Minnesota 55413-1036 612.677.7100 612.677.7499 fax www.rsparch.com

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healthcare facilities solutions

CONSULTANTS: Van Sickle, Allen & Assoc. 2955 Xenium Lane N Suite 10 Plymouth, MN 55441

10250 Valley View Road

Suite 113

Eden Prairie, MN 55344

50 South Sixth Street Suite 1100 Minneapolis, MN 55402 Fire Protection Gary Travinski Associates Engineering 94 Boston Hill

Dunham Associates

Larksville, PA 18651-3298

923 Nicollet Mall Minneapolis, MN 55402

Damon Farbar Assoc.

Registration No

Keith Jacobson

Engineer under the laws of the State of Minnesota

I hereby certify that this plan, specification or report was prepared

by me or under my direct supervision and that I am a duly licensed

DATE: APPROVED: PATIENT SAFE PROVED: PROJECTS SECTION MANAGER DATE: APPROVED: CHIEF OF POL PPROVED: DIRECTOR FMS DATE: APPROVED: SAFETY MANAGE

FOUNDATION PLAN NOTES:

1. REFER TO THE GENERAL STRUCTURAL NOTES ON SHEET S1.

2. TOP OF FOOTING ELEVATION (TFE) FOR CONCRETE SHEARWALLS AND COLUMN FOOTINGS VARY, SEE PLAN. FOOTING SCHEDULE P/C COLUMN SCHEDULE MARK SIZE DEPTH REINFORCING BASE PLATE 3. S— —S - DENOTES STEPPED FOOTING, SEE 1/S6. (4) #5 E.W. T&B SIZE TYPE ANCHOR BOLTS 4. FOR TYPICAL CORNER BAR REINFORCING SEE 11/S6, 12/S6 & 13/S6. (8) #7 E.W. T&B 8'-0" x 8'-0" 5. ALL COLUMS AND FOOTINGS ARE CENTERED ON GRIDS AND WALL FOOTING ARE CENTERED BELOW WALL UNO. 16" x 16" 6. DATUM ELEVATION 1048.5' = 100'-0" VERIFY W/ CIVIL. (9) #8 E.W. T&B 10'-0" x 10'-0" 7. TOP OF FOOTING ELEVATION (TFE) = 92'-9" UNO. 11'-0" x 11'-0" (11) #8 E.W. T&B 8. SLAB ON GRADE THICKNESS AND REINFORCING VARIES, SEE PLAN. 12'-0" x 12'-0" 36" (13) #8 E.W. T&B 9. "CJ" DENOTES CONTROL/CONSTRUCTION JOINTS; FOR TYPICAL SLAB ON GRADE DETAILS, SEE 5/S6. 10. "F1" - DENOTES COLUMN FOOTING MARK, SEE SCHEDULE ON THIS SHEET FOR SIZE AND REINFORCING. 11. "C1" -DENOTES PRECAST COLUMN MARK, SEE SCHEDULE ON THIS SHEET FOR SIZE. 12. EDENOTES ELECTRICAL SLEEVE, COORDINATE SIZE AND LOCATION WITH ELECTRICAL. 13. FOR CURB LOCATIONS AND DIMENSIONS, SEE ARCH. 14. SEE MECH FOR SIZES AND LOCATIONS OF HOUSE KEEPING PADS. MATCHLINE TFE= 92' - 9" EXACT LOCATION OF THE STEAM VAULT TO BE FIELD
VERIFIED PRIOR TO WORK IN TSE= 95' - 6" THE AREA **EXISTING** STEAM VAULT/ STEAM VAULT BOT OF FTG ELEV TO MATCH BOT OF STEAM TUNNEL FTG ELEV - 6" SLAB ON GRADE w/ #5 @ 15"O.C. E.W. TSE=93'-0" DELETE COURTYARD ENCLOSURE TFE= 92' - 6" CORNERS & EACH SEE ARCH FOR DOOR OF - 16" CIP FND WALL DEDUCT ALT #9: ELIMINATE SHADED AREA & EXTEND LINK TO BLDG PARTIAL CRAWL SPACE FOUNDATION PLAN

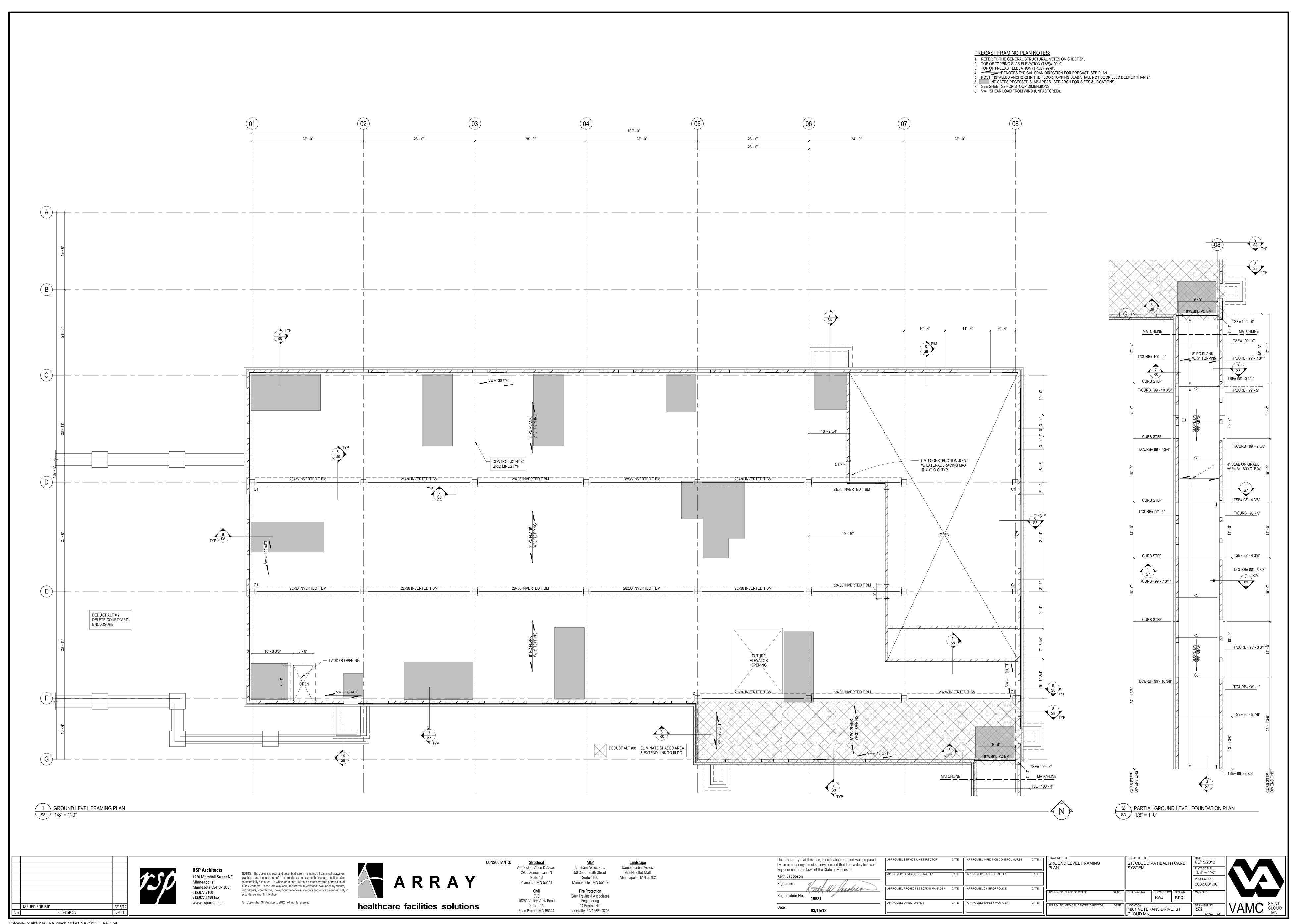
1/8" = 1'-0" 1 CRAWL SPACE FOUNDATION PLAN APPROVED: SERVICE LINE DIRECTOR DATE: APPROVED: INFECTION CONTROL NURSE DATE: I hereby certify that this plan, specification or report was prepared CONSULTANTS: ST. CLOUD VA HEALTH CARE <u>Structural</u> CRAWL SPACE FOUNDATION by me or under my direct supervision and that I am a duly licensed Van Sickle, Allen & Assoc. **Dunham Associates** Damon Farbar Assoc. Engineer under the laws of the State of Minnesota. 2955 Xenium Lane N 50 South Sixth Street 923 Nicollet Mall NOTICE: The designs shown and described herein including all technical drawings, DATE: APPROVED: PATIENT SAFET Keith Jacobson 1220 Marshall Street NE graphics, and models thereof, are proprietary and cannot be copied, duplicated or Minneapolis, MN 55402 Suite 10 Suite 1100 commercially exploited, in whole or in part, without express written permission of Plymouth, MN 55441 Minneapolis Minneapolis, MN 55402 RSP Architects. These are available for limited review and evaluation by clients, Minnesota 55413-1036 PPROVED: PROJECTS SECTION MANAGER DATE: APPROVED: CHIEF OF POLIC DATE: | BUILDING No | CHECKED BY | DRAWN | CAD FILE consultants, contractors, government agencies, vendors and office personnel only in Fire Protection APPROVED: CHIEF OF STAFF 612.677.7100 accordance with this Notice. Registration No. Gary Travinski Associates KWJ RPD 612.677.7499 fax 10250 Valley View Road Engineering DATE: APPROVED: SAFETY MANAGER APPROVED: MEDICAL CENTER DIRECTOR DATE: LOCATION 4801 VETERANS DRIVE, ST CLOUD MN_ © Copyright RSP Architects 2012. All rights reserved. www.rsparch.com APPROVED: DIRECTOR FMS healthcare facilities solutions Suite 113 94 Boston Hill ISSUED FOR BID 03/15/12 Larksville, PA 18651-3298 Eden Prairie, MN 55344 REVISION C:\Revit-Local\10190_VA Psych\10190_VAPSYCH_RPD.rvt

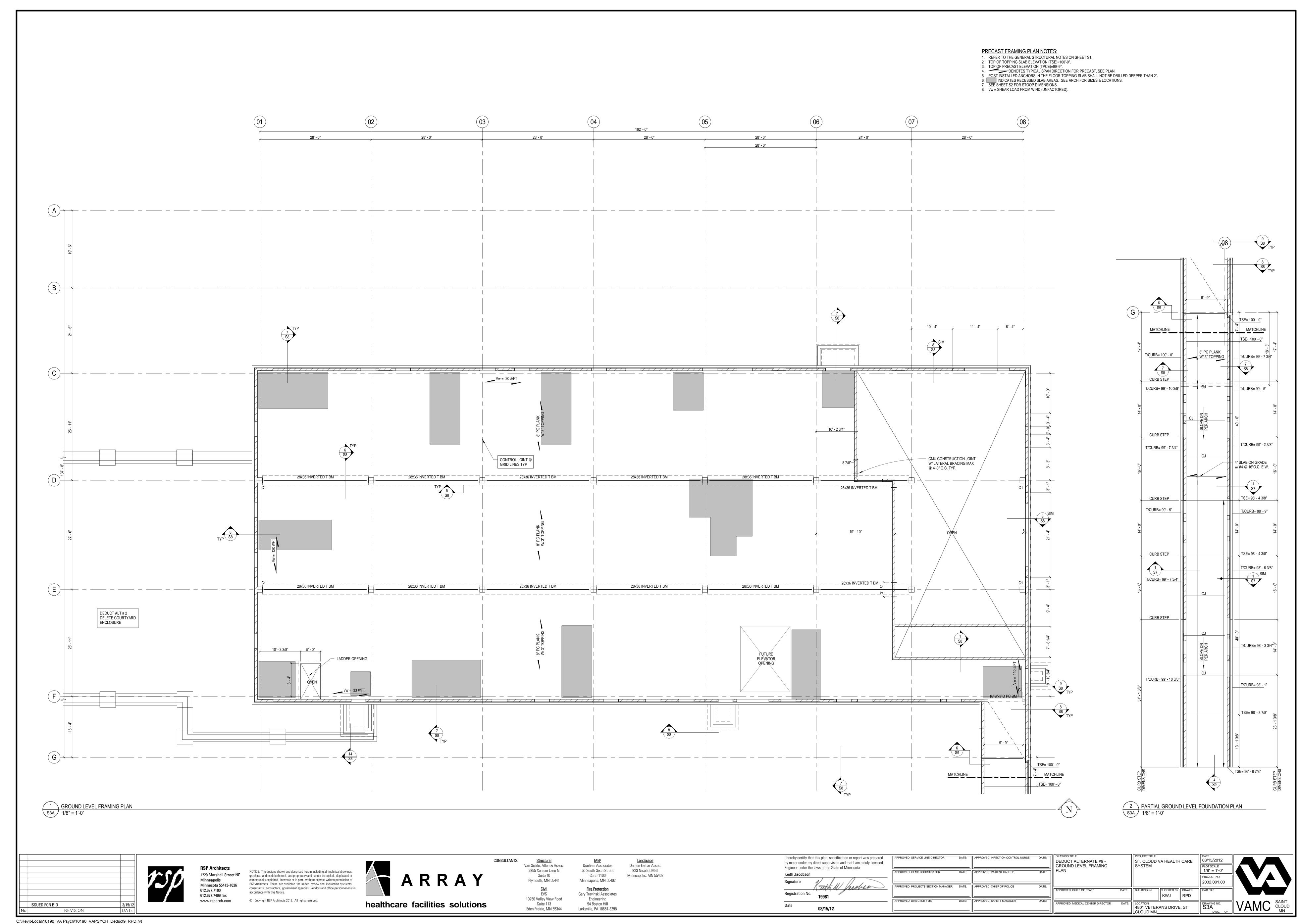
FOUNDATION PLAN NOTES:

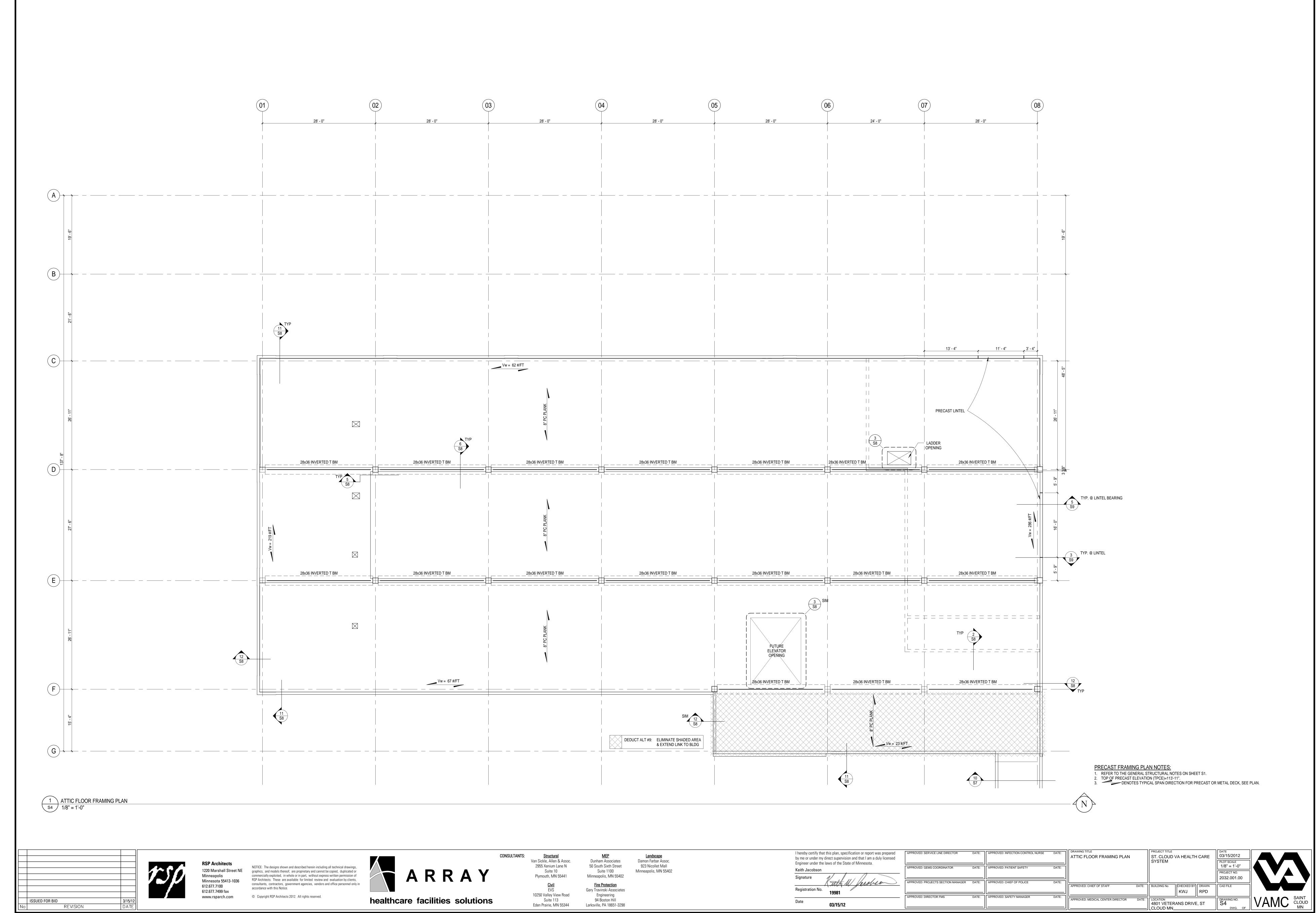
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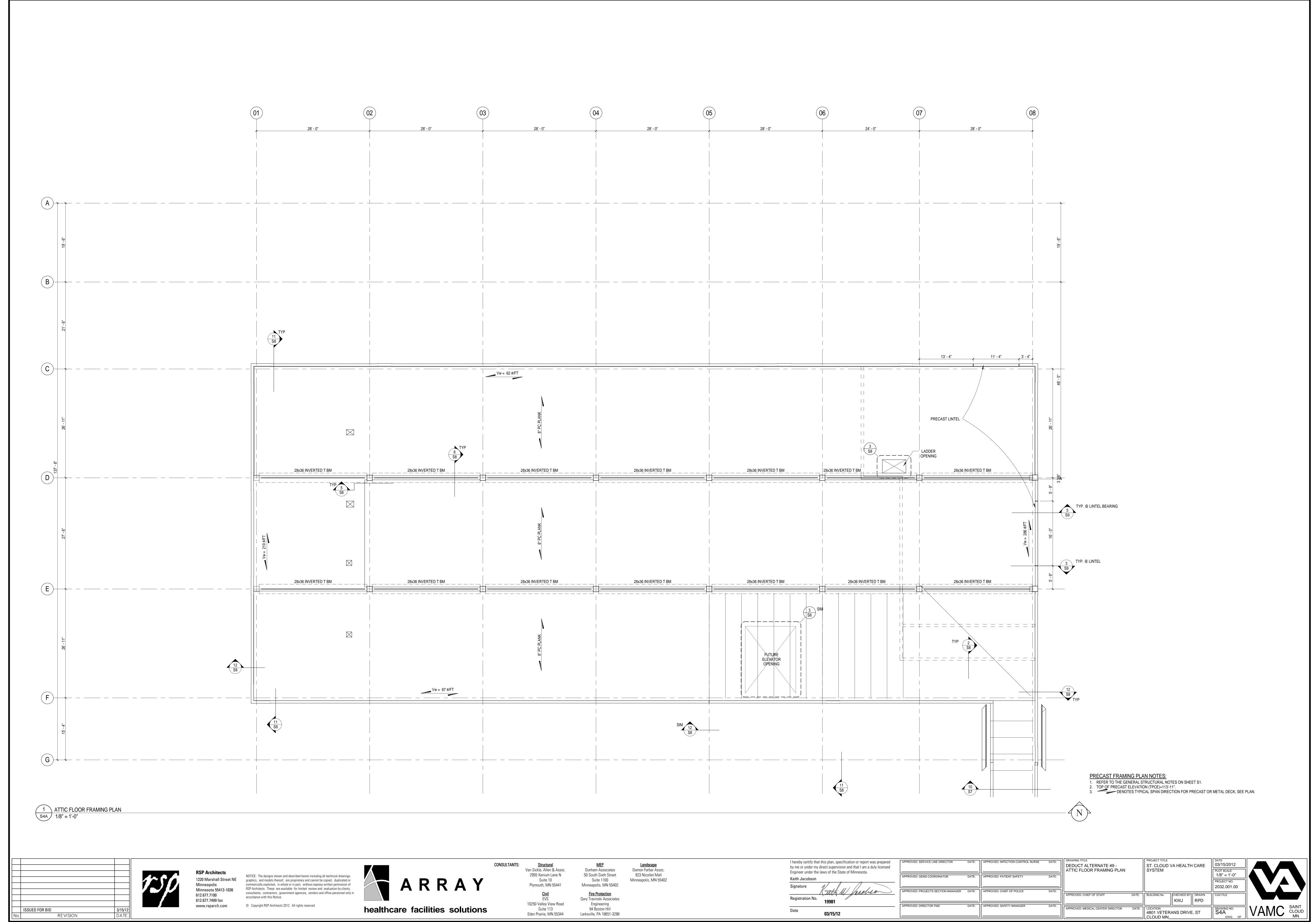
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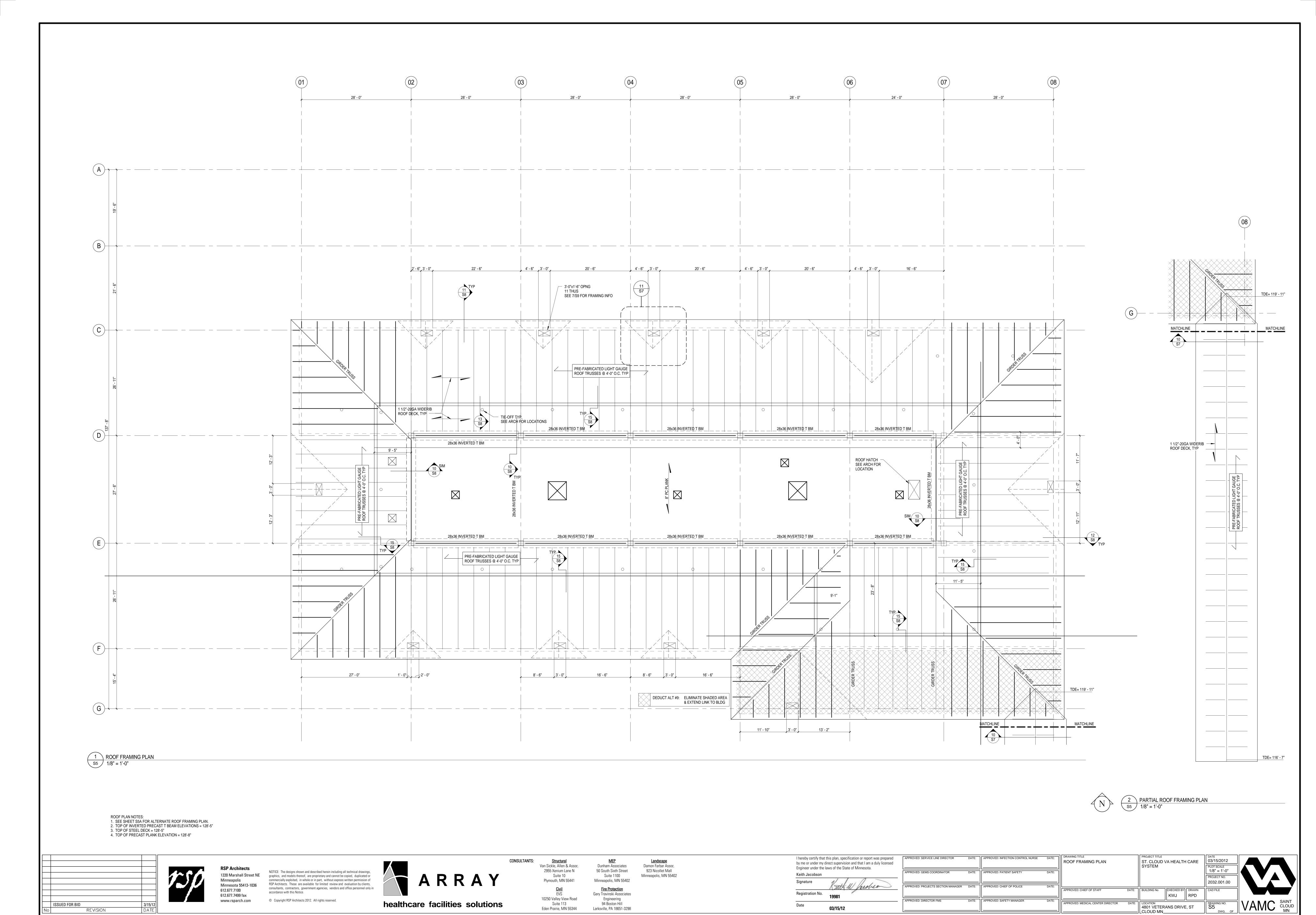
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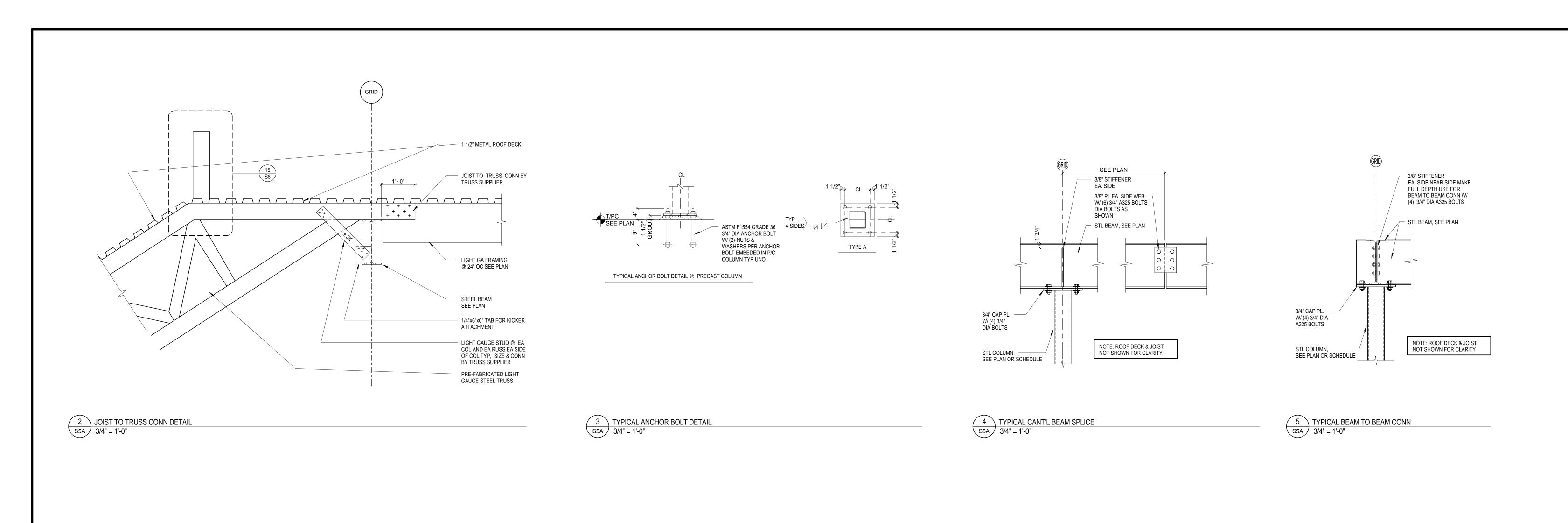


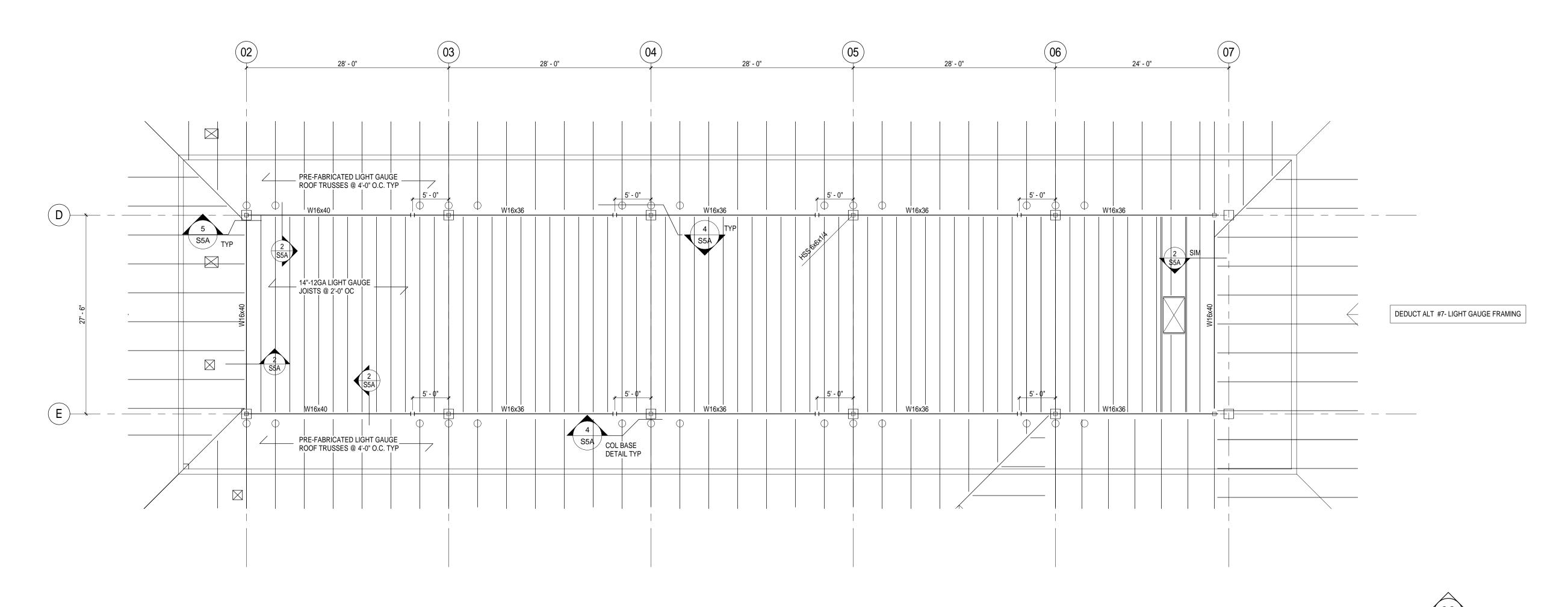












1 ALTERNATE ROOF FRAMING PLAN S5A 1/8" = 1'-0" ALTERNATE ROOF FRAMING PLAN NOTES

1. TOP OF STEEL BEAM TBE = 124'-9 1/2".

2. TOP OF STEEL ROOF DECK TDE = 125'-8".

3. ──INDICATES BOTTOM CHORD BRACING REQ'D.

ISSUED FOR BID REVISION

Minneapolis Minnesota 55413-1036 612.677.7100 612.677.7499 fax www.rsparch.com

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<u>Structural</u> Van Sickle, Allen & Assoc. **Dunham Associates** 2955 Xenium Lane N 50 South Sixth Street Suite 10 Suite 1100 Plymouth, MN 55441 Minneapolis, MN 55402 Fire Protection Gary Travinski Associates

Engineering

94 Boston Hill

Larksville, PA 18651-3298

10250 Valley View Road

Suite 113

Eden Prairie, MN 55344

Damon Farbar Assoc. 923 Nicollet Mall Minneapolis, MN 55402

Signature	1/ / //
Signature	1/ ///
Keith Jacobson	
by me or under my	at this plan, specification or report was prepare direct supervision and that I am a duly license a laws of the State of Minnesota.

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ST. CLOUD VA HEALTH CARE ALTERNATE ROOF FRAMING APPROVED: CHIEF OF STAFF DATE: BUILDING No CHECKED BY DRAWN CAD FILE KWJ RPD DATE:

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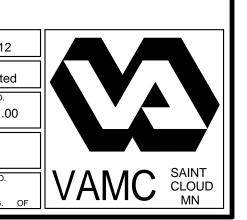
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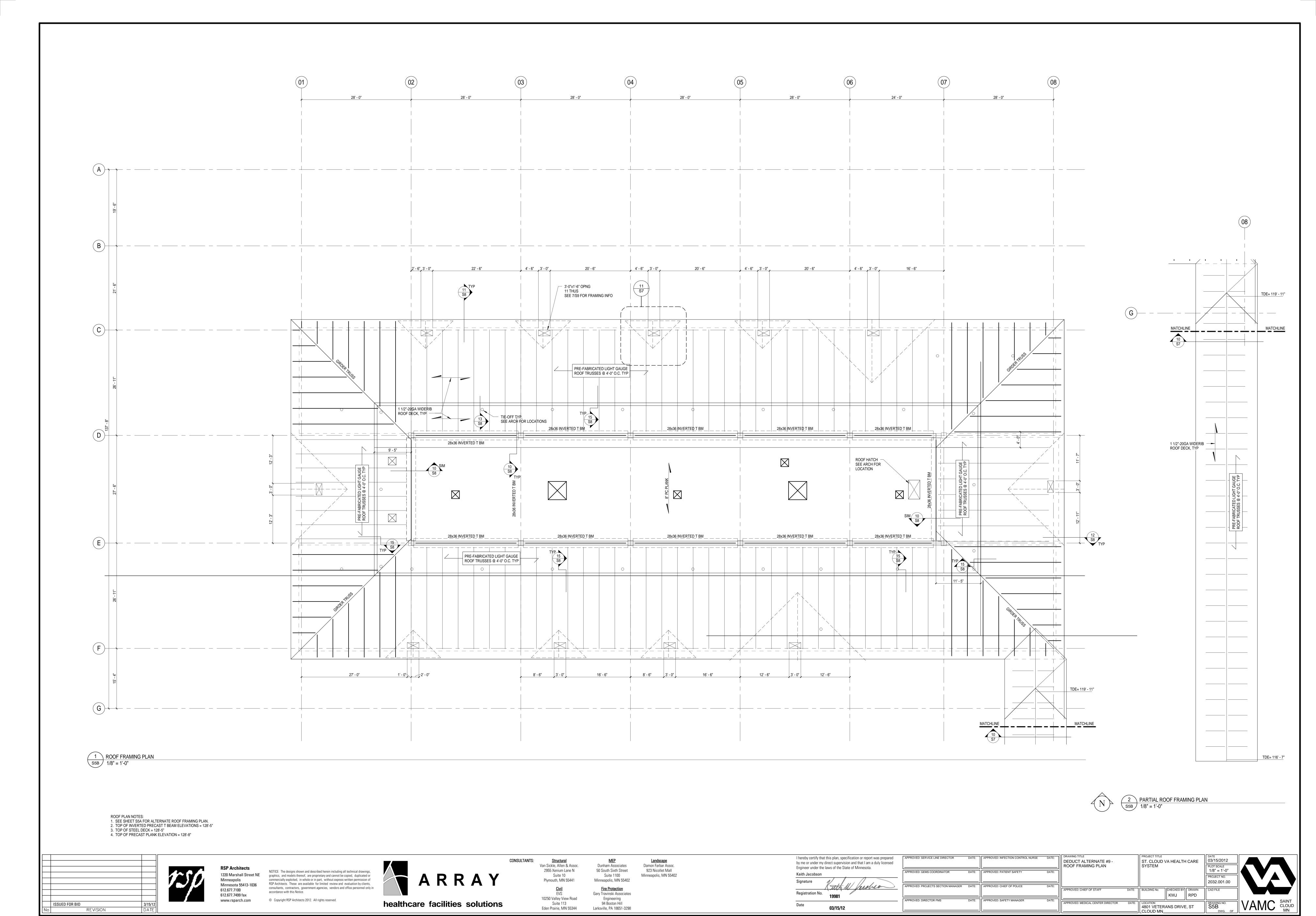
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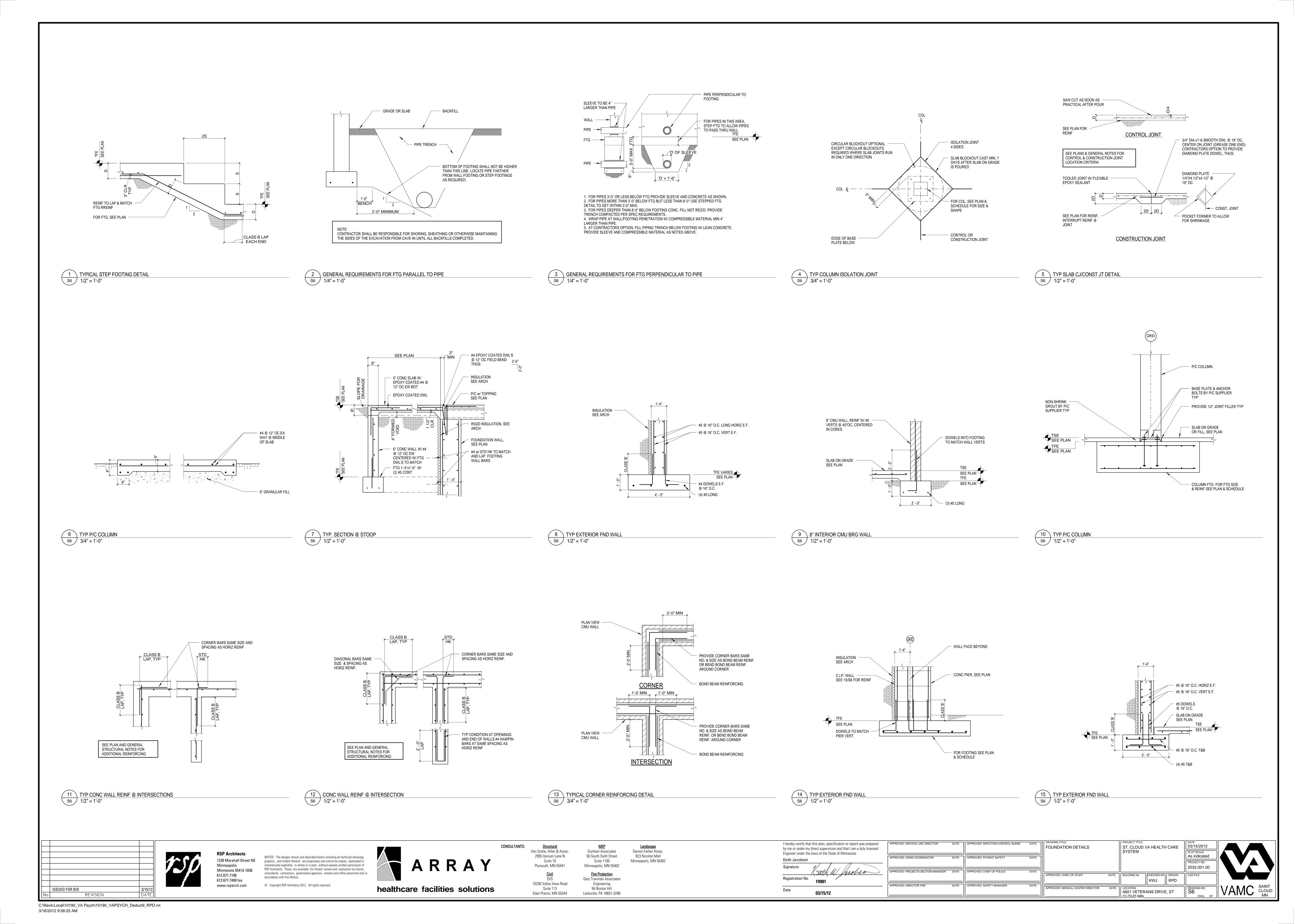
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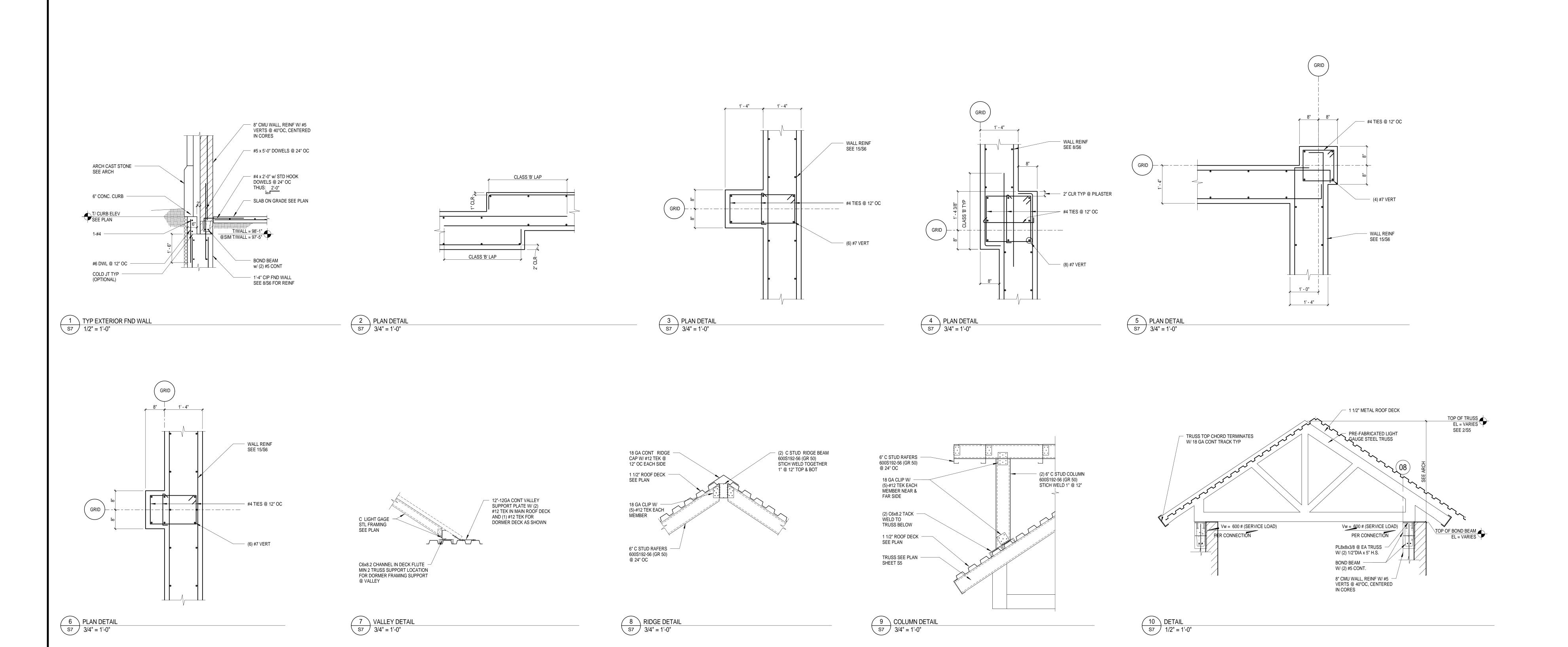
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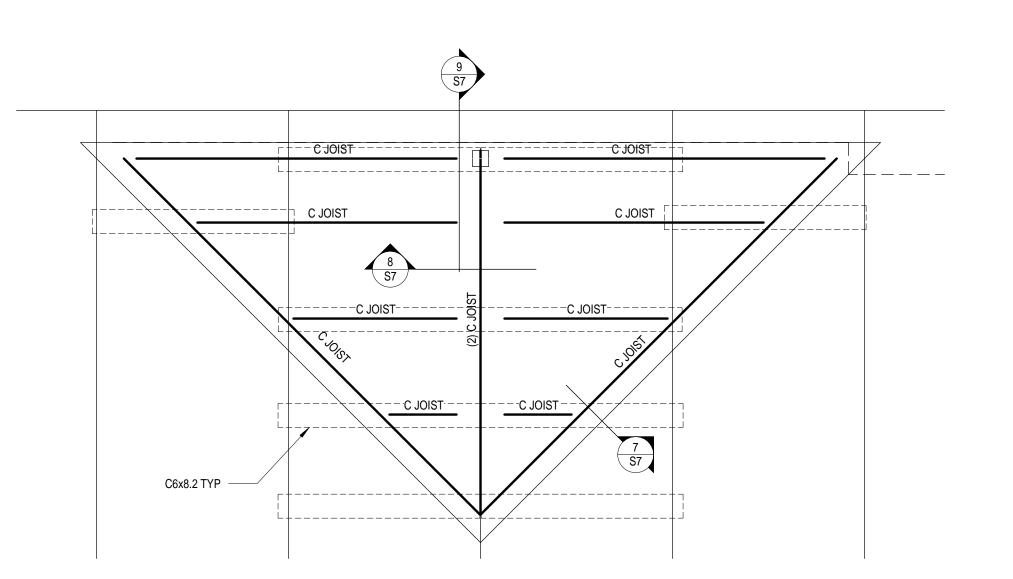
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(UNCOATED) CONCRETE REINFORCING LAP REQUIREMENTS

	CONCRETE REINFORCING LAP REQUIREMENTS (UNCOATED BARS)										
		3000PSI 3500PSI					4000PSI		4500PSI		0PSI
BAR		TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
SIZE	TYPE	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS
3	CLASS A	22	17	20	16	19	15	18	14	17	13
3	CLASS B	28	22	26	20	25	19	23	18	22	17
4	CLASS A	29	22	27	21	25	19	24	18	23	17
	CLASS B	37	29	35	27	33	25	31	24	29	23
5	CLASS A	36	28	33	26	31	24	30	23	28	22
	CLASS B	47	36	43	33	41	31	38	30	36	28
6	CLASS A	43	33	40	31	37	29	35	27	34	26
	CLASS B	56	43	52	40	49	37	46	35	44	34
7	CLASS A	63	48	58	45	54	42	51	40	49	38
′	CLASS B	81	63	75	58	71	54	67	51	63	49
8	CLASS A	72	55	66	51	62	48	59	45	56	43
0	CLASS B	93	72	86	66	81	62	76	59	72	56
9	CLASS A	81	62	75	58	70	54	66	51	63	48
9	CLASS B	105	81	97	75	91	70	86	66	81	63

- 1. THESE TABLES ARE BASED ON THE FOLLOWING ASSUMTIONS: A. CLEAR COVER GREATER OR EQUAL TO DB. B. CLEAR SPACING OF BARS GREATER OR EQUAL TO 2 DB.
- 2. TOP BARS ARE SUCH THAT 12" OR MORE OF FRESH CONCRETE IS CAST BELOW THE SPLICE OR DEVELOPMENT LENGTH. 3. DB = BAR DIAMETER 4. Fy = 60 KSI
- 5. FOR HIGHER GRADE STEEL MULTIPLY LENGTHS SHOWN BY A RATIO OF HIGHER FY(KSI) OVER 60(KSI). ALL OTHER FACTORS LISTED STILL APPLY.

(COATED) CONCRETE REINFORCING LAP REQUIREMENTS

	CONCRETE REINFORCING LAP REQUIREMENTS (EPOXY-COATED BARS)										
		300	0PSI	350	0PSI	400	0PSI	450	0PSI	500	0PSI
BAR		TOP	OTHER								
SIZE	TYPE	BARS	BARS								
3	CLASS A	29	26	26	24	25	23	24	21	23	20
5	CLASS B	37	33	34	30	33	29	30	27	29	26
4	CLASS A	38	33	36	32	33	29	32	27	30	26
7	CLASS B	49	44	46	41	43	38	41	36	38	35
5	CLASS A	47	42	43	39	41	36	39	35	37	33
)	CLASS B	62	54	56	50	54	47	50	45	47	42
6	CLASS A	56	50	52	47	49	44	46	41	45	39
0	CLASS B	73	65	68	60	64	56	60	53	58	51
7	CLASS A	82	72	76	68	71	63	67	60	64	57
1	CLASS B	106	95	98	87	93	81	88	77	82	74
8	CLASS A	94	83	86	77	81	72	77	68	73	65
0	CLASS B	121	108	112	99	106	93	99	89	94	84
9	CLASS A	106	93	98	87	91	81	86	77	82	72
3	CLASS B	137	122	127	113	119	105	112	99	106	95

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FOUNDATION DETAILS

APPROVED: CHIEF OF STAFF

4. Fy = 60 KSI. 5. FOR HIGHER GRADE STEEL MULTIPLY LENGTHS SHOWN BY A RATIO OF HIGHER FY(KSI) OVER 60(KSI). ALL OTHER FACTORS LISTED STILL APPLY.

11 Drafting 1 S7 1/2" = 1'-0" ISSUED FOR BID REVISION



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<u>Structural</u> Van Sickle, Allen & Assoc. 2955 Xenium Lane N Suite 10 Plymouth, MN 55441 10250 Valley View Road Suite 113 Eden Prairie, MN 55344

Dunham Associates 50 South Sixth Street Suite 1100 Minneapolis, MN 55402 Fire Protection Gary Travinski Associates Engineering 94 Boston Hill

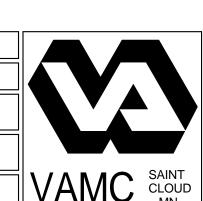
Larksville, PA 18651-3298

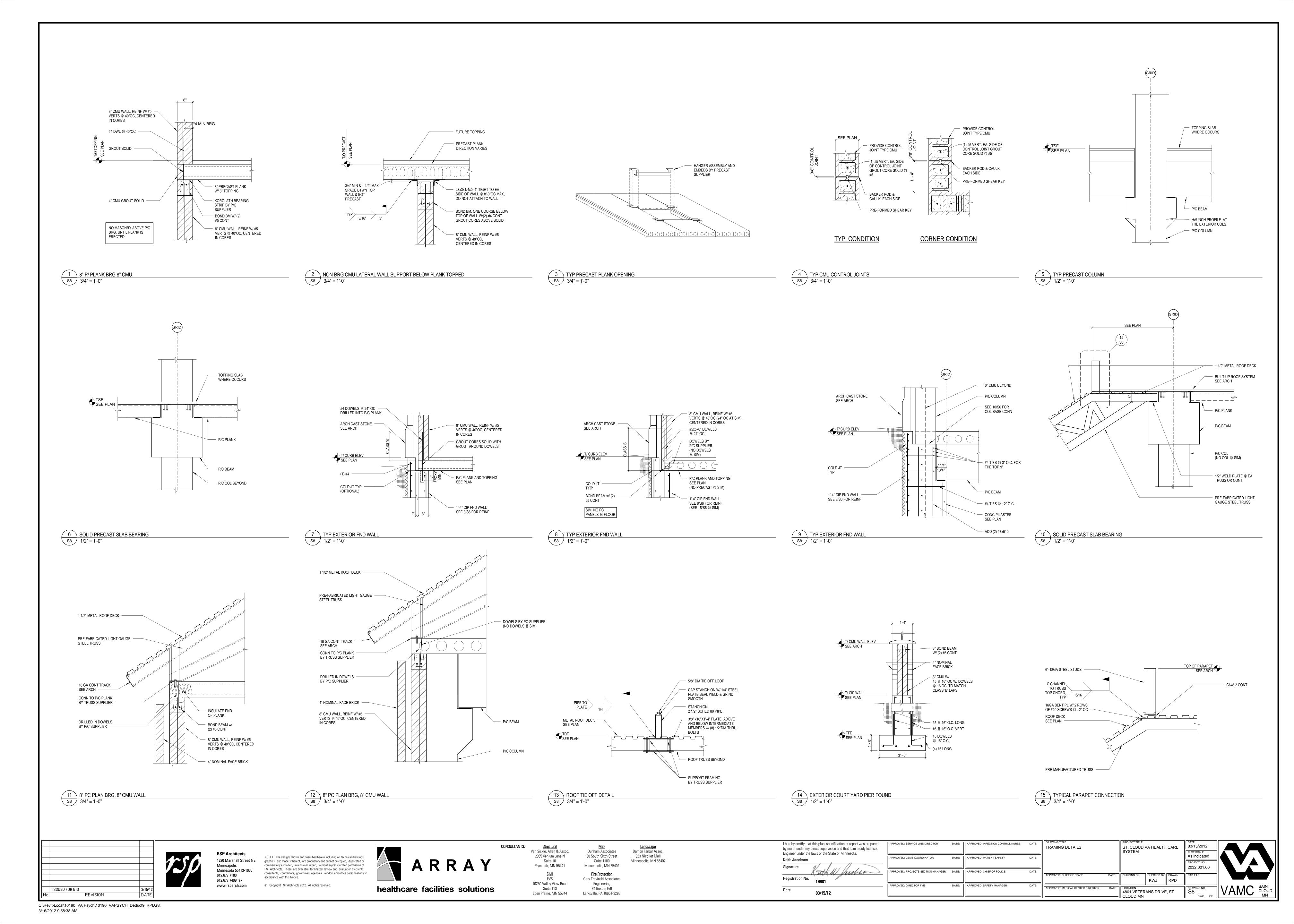
Damon Farbar Assoc. 923 Nicollet Mall Minneapolis, MN 55402

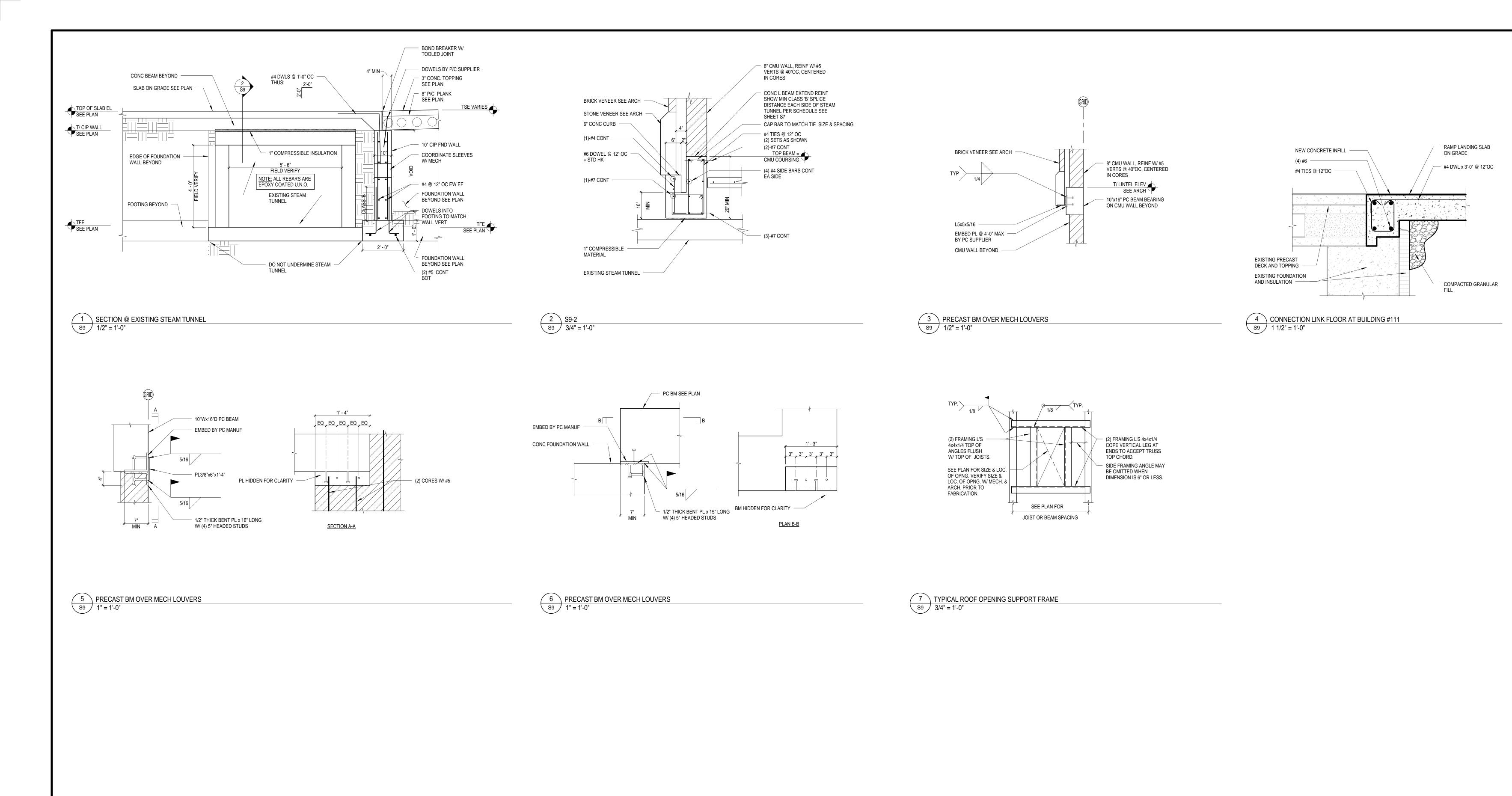
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Engineer under the laws of the State of Minnesota. Keith Jacobson Registration No.

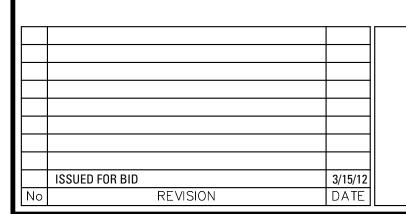
APPROVED: SERVICE LINE DIRECTOR	DATE:	APPROVED: INFECTION CONTROL NURSE	DA
APPROVED: GEMS COORDINATOR	DATE:	APPROVED: PATIENT SAFETY	DA
APPROVED: PROJECTS SECTION MANAGER	DATE:	APPROVED: CHIEF OF POLICE	DA
APPROVED: DIRECTOR FMS	DATE:	APPROVED: SAFETY MANAGER	DA

ST. CLOUD VA HEALTH CARE SYSTEM DATE: BUILDING No CHECKED BY DRAWN KWJ RPD DATE: APPROVED: MEDICAL CENTER DIRECTOR DATE: LOCATION 4801 VETERANS DRIVE, ST CLOUD MN______











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CONSULTANTS: <u>Structural</u> Van Sickle, Allen & Assoc. 2955 Xenium Lane N Suite 10 Plymouth, MN 55441 10250 Valley View Road Suite 113

Eden Prairie, MN 55344

Dunham Associates Damon Farbar Assoc. 50 South Sixth Street 923 Nicollet Mall Minneapolis, MN 55402 Suite 1100 Minneapolis, MN 55402 Fire Protection Gary Travinski Associates Engineering

94 Boston Hill

Larksville, PA 18651-3298

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Engineer under the laws of the State of Minnesota. Keith Jacobson Registration No.

DATE: APPROVED: PATIENT SAFETY PPROVED: PROJECTS SECTION MANAGER DATE: APPROVED: CHIEF OF POLICE DATE: APPROVED: SAFETY MANAGER APPROVED: DIRECTOR FMS

APPROVED: SERVICE LINE DIRECTOR DATE: APPROVED: INFECTION CONTROL NURSE DATE: DRAWING TITLE FRAMING DETAILS APPROVED: CHIEF OF STAFF APPROVED: MEDICAL CENTER DIRECTOR DATE: LOCATION 4801 VETERANS DRIVE, ST CLOUD MN_

ST. CLOUD VA HEALTH CARE DATE: BUILDING No CHECKED BY DRAWN KWJ RPD